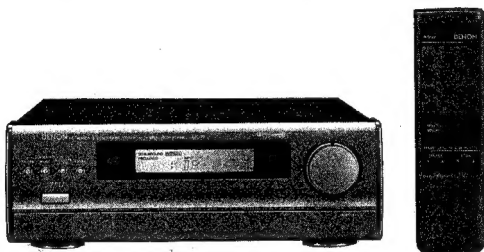


DENON

Hi-Fi AV Surround Amplifier

MODEL AVC-77

AV SURROUND AMPLIFIER



NIPPON COLUMBIA CO., LTD.

SPECIFICATIONS

- **Audio section**
 - Rated maximum output
(All properties shown are only for the power amplifier stage.)
 - Frequency response
 - Rated input/input impedance
 - S/N ratio
 - Speaker impedance
- LINE Input sensitivity/impedance
- **Video section**
 - Input and output level/impedance
 - Frequency response
- **General**
 - Power source
 - Power consumption
 - Maximum external dimensions
 - Weight
- **Remote control unit (RC-17B)**
 - Remote control system
 - Number of buttons
 - Power supply
 - Maximum external dimensions
 - Weight
- * Maximum dimensions include controls, jacks, and covers.
(W) = width, (H) = height, (D) = depth


CENTER (Center 1ch driven)
30 W (8 Ω /ohms, 1 kHz with 1.0% THD)
REAR (rear 2ch driven)
15 W + 15 W (8 Ω /ohms, 1 kHz with 1.0% THD)
40 Hz to 20 kHz ± 3 dB
150 mV/47 k Ω /ohms
90 dB
Center: 8 Ω /ohms
Rear: 8 Ω /ohms
150 mV/47 k Ω /ohms

1 Vp-p/75 Ω /ohms
2 Hz to 8 MHz ± 0 , -3 dB

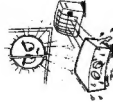






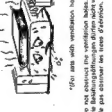

AC 230 V, 50 Hz
135 W
270 (W) \times 96 (H) \times 313 (D) mm
(10-5/8" \times 3-25/32" \times 12-21/64")
4.7 kg (10 lbs 6 oz)

Infrared pulse
15
Two DC 1.5V R6P/AA batteries
48 (W) \times 175 (H) \times 18 (D) mm
(1-57/64" \times 6-57/64" \times 45/64")
120g (including batteries) (Approx. 4 oz)

* Specifications are subject to change without notice.

Manufactured under license from Dolby Laboratories Licensing Corporation. Additionally licensed under one or more of the following patents: U.S. numbers 3,632,886, 3,746,792 and 3,959,590; Canadian numbers 1,004,603 and 1,037,877. "Dolby" and the double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation.

1 INTRODUCTION / EINFÜHRUNG / INTRODUCTION NOTE ON USE / HINWEISE ZUM GEBRAUCH / OBSERVATIONS RELATIVES A L'UTILISATION

 <ul style="list-style-type: none"> • Avoid high temperature. Allow for sufficient heat dissipation when installed on a rack. • Beachten Sie hohe Temperaturen. Allow for sufficient heat dissipation when installed on a rack. • Évitez les températures élevées. Prévoir une dissipation suffisante lors de l'installation sur une étagère. 	 <ul style="list-style-type: none"> • Keep the set free from moisture, water, and dust. Halten Sie das Gerät von Feuchtigkeit, Wasser und Staub fern. • Protéger l'appareil contre l'humidité, l'eau et la poussière. 	 <ul style="list-style-type: none"> • Do not let foreign objects in the set. Keine fremden Gegenstände in das Gerät lassen. • Ne laissez pas d'objets étrangers dans l'appareil.
 <ul style="list-style-type: none"> • Handle the power cord carefully. Do not pull on the cord. Halten Sie das Kabel am Stecker, wenn Sie das System und die Kabel mit einem anderen System austauschen. • Treat the power cord with care. Do not pull on the cord. Halten Sie das Kabel am Stecker, wenn Sie das System und die Kabel mit einem anderen System austauschen. • Évitez de tirer sur le câble. Ne tirez pas sur le câble. 	 <ul style="list-style-type: none"> • Unplug the power cord when not using the set for long periods of time. When plugged in, the set will automatically switch on when the power is restored. Do not use the set without power. Do not use the set without power. • Ziehen Sie das Kabel aus der Steckdose, wenn Sie das System für längere Zeit nicht benutzen. Wenn das Kabel in der Steckdose ist, schaltet das Gerät automatisch ein, wenn die Stromversorgung wiederhergestellt ist. Verwenden Sie das Gerät nicht ohne Strom. • Débranchez le cordon d'alimentation lorsque vous ne utilisez pas l'appareil pendant de longues périodes. Lorsque le cordon est branché, l'appareil se mettra automatiquement sous tension lorsque le courant sera rétabli. Ne pas utiliser l'appareil sans courant. 	 <ul style="list-style-type: none"> • Do not let liquids, moisture, and dust come in contact with the set. Lassen Sie das Gerät nicht mit Flüssigkeiten, Begasung oder Staub in Kontakt kommen. • Ne laissez pas de liquides, d'humidité ou de poussière entrer en contact avec l'appareil.
 <ul style="list-style-type: none"> • Handle the power cord carefully. Do not pull on the cord. Halten Sie das Kabel am Stecker, wenn Sie das System und die Kabel mit einem anderen System austauschen. • Treat the power cord with care. Do not pull on the cord. Halten Sie das Kabel am Stecker, wenn Sie das System und die Kabel mit einem anderen System austauschen. • Évitez de tirer sur le câble. Ne tirez pas sur le câble. 	 <ul style="list-style-type: none"> • Do not remove the ventilation holes. Do not cover the ventilation holes. Do not use the set without ventilation holes. • Entfernen Sie die Lüftungslöcher nicht. Bedecken Sie die Lüftungslöcher nicht. Verwenden Sie das Gerät nicht ohne Lüftung. • Ne retirez pas les trous de ventilation. Ne couvrez pas les trous de ventilation. Ne pas utiliser l'appareil sans ventilation. 	 <ul style="list-style-type: none"> • Never disassemble or modify the set in any way. Versuchen Sie niemals das Gerät auseinander zu nehmen oder es zu modifizieren. • Ne jamais démonter ou modifier l'appareil d'une manière ou d'une autre.

CAUTION / VORSICHT / ATTENTION

• If the system should smoke or produce strange smells, immediately cut the power switch to the STANDBY position, unplug the power cord, and contact your store of purchase.

• Sollte das Gerät Rauch produzieren oder eigenartige Gerüche, stellen Sie den Netzschalter sofort auf die Position STANDBY (Berubstschalt), ziehen Sie den Netzstecker heraus und kontaktieren Sie Ihren Händler.

• Si le système émet de la fumée ou des odeurs bizarres, placez l'interrupteur d'alimentation immédiatement sur la position de veille (STANDBY), débranchez le cordon d'alimentation et contactez le distributeur.

**"SERIAL NO.
PLEASE RECORD UNIT SERIAL NUMBER ATTACHED TO THE REAR OF THE
CABINET FOR FUTURE REFERENCE"**

SAFETY IMPORTANT

WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

•NUR FÜR EUROPÄISCHE MODELLE

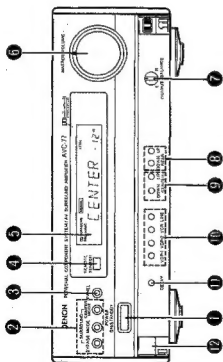
Konformitätserklärung

Die DENON Electronic GmbH
Halsenstraße 32
40880 Ratingen

Erklärt als Hersteller/Importeur, daß das in dieser Bedienungsanleitung beschriebene Gerät den Technischen Vorschriften für Ton- und Fernseh-Rundfunkempfänger nach der Amtsblattverfügung 869/1989 (Amtsblatt des Bundesministers für Post und Telekommunikation vom 31.8. 1989) entspricht.

2 NAMES OF PARTS/BEZEICHNUNG DER TEILE/NOMENCLATURE

(Front Panel/Frontplatte/Panneau avant)



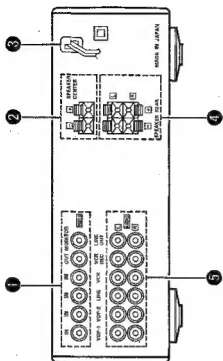
FOR ENGLISH READERS

- 1 POWER button
- 2 SURROUND select button
- 3 REMOTE CONTROL SENSOR
- 4 MFD (Multi-Function Display)
- 5 MASTER VOLUME control
- 6 OUTPUT BALANCE control
- 7 FUNCTION button
- 8 DELAY TIME button
- 9 Trip door

POUR LES LECTEURS FRANÇAIS

- 1 Touche POWER (alimentation)
- 2 Touche de sélection SURROUND (ambiance)
- 3 Touche PANEL (niveau)
- 4 Touche CONTROL SENSOR (détecteur de télécommande)
- 5 MFD (affichage multi-fonction)
- 6 Commandes MASTER VOLUME (volume de la gamme entière)
- 7 Commandes OUTPUT BALANCE (équilibre de sorties)
- 8 Touche REAR (arrière)
- 9 Touche CENTER (niveau de canal central)
- 10 Touche FUNCTION (fonction)
- 11 Touche DELAY TIME (temps de retard)
- 12 Touche

(Rear Panel/Rückseite/Panneau arrière)



FOR ENGLISH READERS

- 1 VIDEO INPUT/OUTPUT jacks
- 2 CENTER channel speaker terminals
- 3 AC cord with plug
- 4 AUDIO INPUT/OUTPUT jacks
- 5 VIDEO INPUT/OUTPUT jacks

POUR LES LECTEURS FRANÇAIS

- 1 Prises VIDEO INPUT/OUTPUT (vidéo)
- 2 Bornes de canal CENTRE (canal central)
- 3 Cordon secteur avec fiche
- 4 Bornes d'entrée REAR (câble arrière)
- 5 Prises AUDIO INPUT/OUTPUT (câble/ports audio)

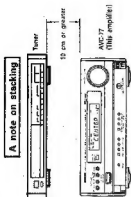
FÜR DEUTSCHE LESER

- 1 Video-Input/Output-Buchsen
- 2 Center-Kanal-Lautsprecheranschlüsse
- 3 AC-Kabel mit Stecker
- 4 Audio-Input/Output-Buchsen
- 5 Video-Input/Output-Buchsen

4 INSTALLATION PRECAUTIONS

Using this amplifier or other electronic equipment simultaneously with a tuner or TV may result in noise in the sound or picture.

- If this should happen, take the following steps:
 - Install the amplifier as far as possible from the tuner or TV.
 - Keep the antenna line of the tuner or TV as far as possible from the amplifier's power cord and connection cables.
 - This problem is especially frequent when using indoor antennas or 300 Ω ohm leader lines. We recommend using outdoor antennas and 75 Ω ohm coaxial cables.



For cooling purposes, do not place another AV component directly on top of the amplifier. Be sure to leave a space of at least 10 cm.

5 HANDLING PRECAUTIONS

- Switching the input function when the input jacks are unconnected
Switching the input function when a component is not connected to the input jacks may result in the generation of click noise. If this should happen, turn down the MASTER VOLUME or connect a component to the input jacks.

Playback with Dolby Pro Logic

The Dolby Pro Logic position provides optimum effectiveness for sources recorded with Dolby Surround. A different surround mode should be selected when playing back sources other than this type. Note in particular that when playing back important recording sources, the bypass mode or the simulated mode should be used. Other modes will not provide a suitable effect.

Muting of the LINE OUT jacks

An electronic muting circuit has been connected to the LINE OUT jacks. This circuit greatly attenuates the output signal for approximately 8 seconds after the power has been switched on. Raising the volume during this operation will result in an extremely large output once the muting has ended, so volume adjustments should be made only after the completion of muting.

• Rear output level while in the surround mode

The rear level will seem small for sources other than Dolby Surround sources. The reason for this is that a rear playback signal is not contained in the signals. When playing back such sources with a surround function, the mode should be set to Dolby Surround or the simulated mode. The rear output level may seem small for sources having a small rear signal, even Dolby Surround sources.

• Opening and closing the door

This amplifier is equipped with a door on the front panel. Press the "DUST OPEN" position printed at the upper right edge of the door to release and open the door. Likewise, to close the door, press in the same position until a click sound is heard.

NOTE:
The door will open naturally once it has been released, but it may stop before fully opening. This is not a fault; just lightly push the door open.

- Read this manual carefully to ensure that you take full advantage of all the features of this surround amplifier. Keep the manual in a safe place for future reference.
- Be sure to check that the date of purchase and the store's name of purchase have been filled in properly on the warranty issued at your store of purchase.

TABLE OF CONTENTS

1	Introduction	2	3	Operation	9
2	Notes on Use	3	4	Preparations for playback	9
3	Names of Parts	4	5	Program source playback	9
4	Before Using	4	6	Recording video program sources or making a video copy	9
5	Installation Precautions	4	7	Remote Control Unit	10
6	Handling Precautions	4	8	Specifications	11
7	Connections	5	9	Troubleshooting	11
8	Dolby Pro Logic Surround	6	10	Last Function Memory	11
9	Part Names and Functions	6	11		28, 29

DENON SERVICE NETWORK

Check that the following parts are included in the package aside from the main unit:

- ① Operating Instructions 1
- ② Remote Controller (RC-178) 1
- ③ RP/AA Batteries 2

3 BEFORE USING

Read the following cautions carefully before using the amplifier:

- Moving the unit
Be sure to unplug the power cord and disconnect other cords connecting the amplifier to other audio units before moving the unit. This will prevent damaging or short-circuiting the cords.
- Before turning on the power switch
Check again to make sure that all connections are correct and that there are no problems with the connection cords. Be sure to turn the power "STANDBY" before disconnecting or connecting cords.
- Retain the operating instructions
After reading this manual, store it in a safe place.
- The illustrations used in this manual may differ somewhat from the actual amplifier.

6 CONNECTIONS

Connecting video decks (VCR)

Connections for video input and output.
Connect the video deck's video output jack to the amplifier's VCR IN jack (yellow) and the video deck's video input jack to the amplifier's VCR OUT jack (yellow) using 75 Ω (ohm) video coaxial cable pin-plug cords.

Connecting the audio input and output jacks

• Connect the video deck's audio output jacks to the amplifier's [AUDIO] VCR IN jacks and the video deck's audio input jacks to the amplifier's [AUDIO] VCR OUT jacks using pin-plug cords.

Connecting a video disc player (VDP)

• Connect the video disc player's video output jack to the amplifier's VIDEO VDP (yellow) jack using a 75 Ω (ohm) video coaxial cable pin-plug cord.
• Connect the video disc player's audio output jacks to the amplifier's AUDIO VDP INPUT jacks using pin-plug cords.

Connecting a monitor TV
• Connect the TV's video input jack to the amplifier's [VIDEO] MONITOR OUT jack using a 75 Ω (ohm) video coaxial cable pin-plug cord.

75 Ω (ohm) video coaxial cable pin-plug cord

Connecting the speaker systems

• A total of three speakers can be connected to the AVC-77, including a pair of rear speakers and one center speaker.
• The speaker system is designed to be used in a stereo system, making sure that the policies are installed (a) with (b) and (c) with (d).
• The speaker system is designed to be used in a stereo system, making sure that the policies are installed (a) with (b) and (c) with (d).
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• The impedance of the front and rear speakers should be 8 Ω (ohms).
• Use of a system with an impedance other than 8 Ω (ohms) may void the protection circuit and create a fire hazard.

Speaker impedance

• The impedance of the front and rear speakers should be 8 Ω (ohms).
• Use of a system with an impedance other than 8 Ω (ohms) may void the protection circuit and create a fire hazard.



1. Peel the insulation off the tip of the cord.
2. Twist the conductors.
3. Press down the lever of the speaker terminal with your finger.
4. Insert the end of the cord, then release your finger.

Press down the lever of the cord, then release your finger.

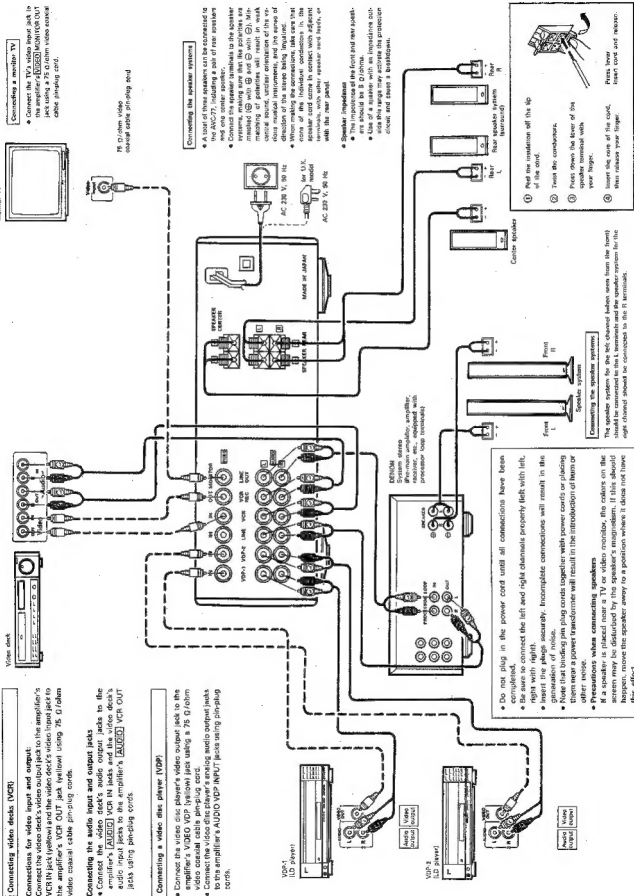
Connecting the speaker systems

The speaker system for the left channel (seen from the front) is connected to the left channel and the speaker system for the right channel should be connected to the right channel.

- Do not plug in the power cord until all connections have been completed.
- Be sure to connect the left and right channels properly (left with left, right with right).
- Inspect the connections carefully. Incomplete connections will result in the introduction of noise.
- Note that binding pin plug cords together with power cords or placing them near a power transformer will result in the introduction of hum or other noise.
- Precautions when connecting speakers: When connecting the speakers to the TV's video recorder, the volume on the system may be disturbed by the speaker's magnetism. If this should happen, move the speaker away to a position where it does not have this effect.

Precautions when connecting speakers

When connecting the speakers to the TV's video recorder, the volume on the system may be disturbed by the speaker's magnetism. If this should happen, move the speaker away to a position where it does not have this effect.



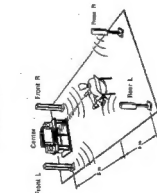
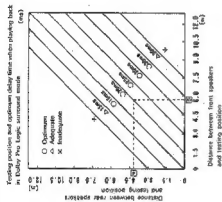
7 DOLBY PRO LOGIC SURROUND

• Setting delay times

Optimum delay time depends on the listening position. Look at the diagram on the right and set the optimum delay time for the size of your room and your listening position. For example, if your listening position is 4 m away from the front speakers, the optimum delay time for the rear speakers is 20 msec. The optimum delay time will be 20 msec. For more information on the delay time variation range, see page 7.

• Adjusting the input balance

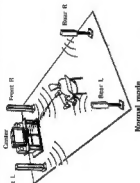
This amplifier is equipped with an auto input balance circuit, so there is no input balance adjustment knob.



The ON/OFF and delay time setting for the speaker output (FRONT, CENTER, REAR) and the volume adjustment for the rear and center speakers can be set individually for each surround mode.

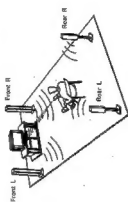
• Speaker placement in Dolby Pro Logic surround mode

When playback begins in Dolby Pro Logic surround, use of a center speaker will provide the best effect.



Normal mode

This is the best mode to use if the center channel is smaller than the speakers on the left and right. Signals of 100 Hz or below, which has almost no effect on orientation, are divided between the left and right channels. The center channel is deeper, so the bass on the left and right channels is deeper.

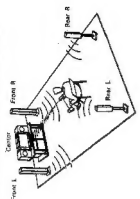


Phantom mode

This is the mode to use when the center channel playback speaker is not in use. The center channel is created by the sum of the left and right signals in the center during playback, so that you can enjoy an exciting sound field even without using the center speaker.

• Test tone

The test tone produces a test signal for adjusting the level in each channel in the Dolby Pro Logic surround mode. Before using Dolby Pro Logic surround, position the speakers as described above, find the ideal balance for the volume of each channel, and then adjust the volume of the volume etc. so that they sound as if they are at the same level.



Wide mode

This is the best mode to use when the center channel speaker is of the same grade as the speakers on the right and left. The entire frequency band, from low regions to high regions, is sent to the center channel playback speaker, giving an exciting sound field for your enjoyment.

In normal and wide mode, the test tone switches in the following order:

Front (left) — Center — Front (right) — Rear

Adjust the volume balance using this signal until the optimum balance is reached.

In phantom mode the switching is as follows:

Front (left) — Front (right) — Rear

Note that on this amplifier, the test tone is produced every 4 seconds after the first 2 seconds.

Use the remote control unit (RC-178) to make adjustments using the test tone.

8 PART NAMES AND FUNCTIONS

Front panel

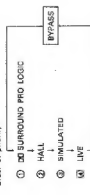
1 POWER switch

- ON When this switch is pressed once, the power turns on. When the power is on, the "POWER" indicator lamp flashes to prevent noise when the "MUTING" is pressed, and stops flashing when the button is released. The volume change is displayed on the LCD.
- STANDBY Press this switch once again to set the standby mode. "OFF" is displayed on the LCD.

2

SURROUND buttons

- BYPASS button Use these buttons to select the surround mode. When this button is pressed, the surround mode is bypassed and the normal stereo sound is produced. No signal is output to the rear channel.
- MODE selector button Press this button to select one of the surround modes shown below.



1) 3D SURROUND PRO LOGIC

- Use this mode for video software, etc., recorded in Dolby Surround.
- Select the speaker mode according to the speaker position of the room.
- Set the delay time to between 15 msec and 30 msec, according to the size of the room and the position of the speakers.

- 2) HALL surround Use this mode to create the atmosphere of a hall.
- The delay time can be set to between 5 msec and 30 msec.

- 3) SIMULATED Use this mode to create a surround effect with monaural sources.
- No signals are output to the center channel.
- The delay time can be set to between 5 msec and 30 msec.

- 4) LIVE Use this mode to create the atmosphere of a live program in a studio.
- The delay time is set at 0 msec.

3 PANEL button

- When this button is pressed, the current settings are displayed on the LCD.
- Press this button to return to the normal display. For details, refer to pages 7 to 8.

4 REMOTE SENSOR

- The remote control unit is pointed toward this sensor and operated.

5 LCD liquid crystal display

- The surround mode and input and output information is displayed here when the power is turned on. When the power is on, the "POWER" indicator lamp flashes. When the "MUTING" button is pressed, a display pertaining to that button is shown for approximately 5 seconds, after which the surround mode is once again displayed.
- Refer to page 8 for details on the LCD indicators.

6 MASTER VOLUME control

- Turn the control clockwise (↻) to increase the volume, counterclockwise (↻) to decrease it.

7 OUTPUT BALANCE control

- Use this to adjust the balance between the left and right outputs to create an effective surround sound.

8 REAR speaker volume control buttons

- Use these buttons to adjust the volume of the rear (surround) speakers.

- UP: Press this to increase the volume.
- DOWN: Press this to decrease the volume.

- The volume changes while one of the buttons is pressed and the volume change is displayed on the LCD.

- These buttons do not function when in the bypass mode.

9 CENTER speaker volume control buttons

- UP: Press this to increase the volume.
- DOWN: Press this to decrease the volume.

- The volume changes while one of the buttons is pressed, and stops changing when the button is released. The volume change is displayed on the LCD.

- These buttons do not function when in the hall, live, simulated or Dolby Pro Logic phantom modes.

10 Input selector buttons

- Use these buttons to select the input audio and video signals.
- VDP-1: Press this to use the VDP connected to the VDP-1 jacks.
- VDP-2: Press this to use the VDP connected to the VDP-2 jacks.
- VCR: Press this to use the video deck connected to the VCR.
- LINE: Press this when an amplifier or receiver equipped with processor loop terminals is connected to select that component.

11 DELAY selector button

- Press this button to switch the delay time, as shown below.

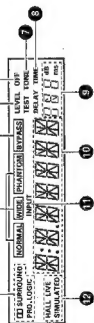
- When Dolby Pro Logic is selected with the SURROUND MODE button:



12 TRAP DOOR

- Press the right edge to open the door.
- To close the door, push the right door. A click is heard to indicate that the door is closed.

Explanation of the LCD



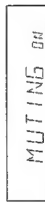
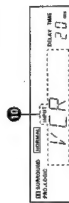
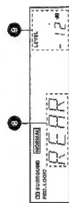
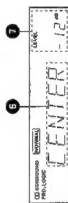
- 1 **Multi-function display**
The following settings are displayed in order each time the POWER button is pressed: SURROUND MODE, PRO LOGIC, NORMAL MODE, INPUT, LEVEL OFF, LEVEL, PHANTOM, BYPASS, and DELAY TIME. Normally the surround mode setting is displayed.
- 2 **DI SURROUND PRO LOGIC indicator**
This is displayed when the Delay Surround Pro Logic mode is activated with an SURROUND MODE button.
- 3 **NORMAL, PHANTOM and WIDE indicators**
These light in the following order:
NORMAL — PHANTOM — WIDE
- 4 **BYPASS indicator**
This lights when the surround circuit is bypassed by pressing the SURROUND BYPASS button.
- 5 **LEVEL indicator**
This lights when the level setting is lighted by the REAR UP and DOWN buttons or the CENTER UP and DOWN buttons while the level with the UP and DOWN buttons while the level is displayed in steps of 2dB from -48dB (minimum) to 0dB (maximum).
- 6 **OFF indicator**
This lights when the standby mode is set by turning off the POWER switch.
- 7 **TEST TONE indicator**
This lights when the TEST TONE button is pressed (RC-178).
- 8 **DELAY TIME indicator**
This lights along with section 9 when in the surround mode. Use the DELAY button to set the delay time.

DELAY PRO LOGIC	Displayed in 5-step steps from 15ms to 30ms.
HALL and SIMULATED	Displayed in 5-step steps from 0dB to 30dB.
LIVE	Pressed at 0dB.

Examples of Multi Function Display Patterns

The displayed modes indicate the operations performed when the buttons on the front panel of the AVC-77 or on the remote control unit (RC-178) are operated.

1. **Surround mode display**
 - (1) **Delay Pro Logic modes**
 - SURROUND PRO LOGIC indicator
 - Press the **DI CENTER MODE** button:
 - NORMAL, PHANTOM, or WIDE
 - DELAY TIME
 - DELAY PRO LOGIC — Displayed in 5ms steps from 15ms to 30ms.
 - (2) **Other surround modes**
 - This surround mode is displayed as follows:
 - HALL or SIMULATED — Displayed in 5ms steps from 0dB to 30dB.
 - LIVE — fixed at 0dB.
 - (3) **BYPASS indicator**
 - Displayed in the bypass mode.
2. **Center level display**
 - Center level display
 - Displayed when CENTER UP or DOWN button is pressed.
 - Displayed in steps of 2dB from -48dB (minimum) to 0dB (maximum).
3. **Rear level display**
 - Displayed when REAR UP or DOWN button is pressed.
 - Displayed in steps of 2dB from -48dB (minimum) to 0dB (maximum).
4. **INPUT indicator**
 - This function selected with the input selector buttons is displayed.
5. **MUTING display**
 - This appears when the POWER switch is turned on. "MUTING" flashes until the muting circuit turns off.
6. **OFF indicator**
 - This appears when the POWER switch is turned off.



9 OPERATION

PREPARATIONS FOR PLAYBACK

- Checking connections
 - Check the connection diagrams (pages 5 to 10), and make sure that all connections are correct.
 - Check that the left and right speaker systems, and the frontiers (G), are matched correctly.
 - Set the OUTPUT BALANCE control knob in the center position.
- Checking all lead amplifiers
 - Put the MASTER VOLUME control knob in the 0 position by turning it as far to the left as it will go.
 - Set the OUTPUT BALANCE control knob in the center position.
- Check that all cables are securely plugged in.
- Check that the cables used are of the correct type.

After making these checks, turn on the power by pressing the POWER switch.

The "MUTING" indicator flashes on the LCD, then turns off after several seconds, at which point the set is in the normal operating mode.

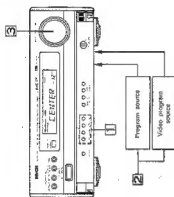
Note on operations carried out during playback

If the FUNCTION buttons or other buttons are operated during playback, the sound will be interrupted. This is due to the activation of the muting circuit which prevents the generation of noise during switching. It is not a malfunction.

Protection circuit ("PROTECTION" display lights)

This amplifier has a high-impedance protection circuit. The output of the circuit is connected to the speaker terminals, the circuit being damaged by the large currents which flow through the inner circuitry of the set when output is sent to a partly disconnected or short-circuited speaker terminal. When the protection circuit is activated, the speaker output is automatically cut off, and the message "PROTECTION" is displayed. In such a case, the user must stop the program and disconnect the speaker connectors before plugging the power cord back in and switching the power back on. If the PROTECTION message is still displayed after you have re-checked, contact your dealer or your local Sales Office or Branch Office.

1. Program source playback



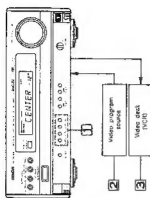
- Press the desired FUNCTION button. The function for the button which was pressed is indicated on the LCD.

Program source	FUNCTION Button
To watch and listen to the contents of a video disc player connected to the VDP-1 jack.	VDP-1
To watch and listen to the contents of a video disc player connected to the VDP-2 jack.	VDP-2
To watch and listen to the contents of a video disc player connected to the VCR jack.	VCR
To watch and listen to the contents of a video disc player connected to the LINE jack.	LINE

- Start playback of the program source. For operating instructions, consult the operating instructions for the relevant components.

- Adjust volume.

- Recording a video program source or making a video copy
 - To record or copy the video source currently monitored.



- Press the desired FUNCTION button. The function for the button which was pressed is indicated on the LCD.

Video program source	FUNCTION Button
To record from a video disc player connected to the VDP-1 jack.	VDP-1
To record from a video disc player connected to the VDP-2 jack.	VDP-2
To record from a video disc player connected to the VCR jack.	VCR
To record from a video disc player connected to the LINE jack.	LINE

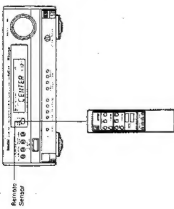
- Start playback of the desired video program source.
- Start recording on the video deck. For operating instructions, consult the operating instructions of the component concerned.

10 REMOTE CONTROL UNIT

Following the procedure outlined below, insert the batteries before using the remote control unit.

Range of operation of the remote control unit

Point the remote control unit at the remote control sensor as shown on the diagram at the left.



NOTES:

- The remote control unit can be used from a straight distance of approximately 7 meters, but this distance will be reduced if the remote control unit is pointed at an angle or if there are obstacles between the remote control unit and the remote control sensor. If the remote control sensor is exposed to direct sunlight or other strong light, or if operated from an angle, rays or other devices emitting pulsed light rays nearby may result in malfunction, so keep the set as far away from such devices as possible.

Inserting the batteries

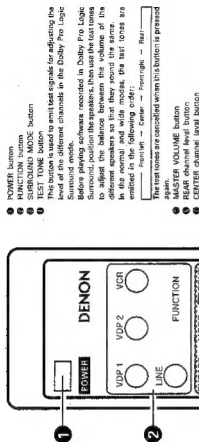
1. Open the bottom cover of the remote control unit and remove the battery cover.



2. Insert the two R6/AA batteries, matching the ⊕ and ⊖ marks on the batteries with those in the cover. Close the bottom cover until it clicks shut.



Buttons layout



- POWER button
- FUNCTION button
- SURREOUND MODE button
- TEST TONE button

The test tones are used to adjust the level of the different channels in the Dolby Pro Logic Surround mode.

Before playing software recorded in Dolby Pro Logic Surround, position the speakers, then use the test tones to adjust the level of the different channels. In the normal and wide modes, the test tones are emitted in the following order:

Front — Center — Front-right — Rear — Right — Left — Left-center — Front-left

- MASTER VOLUME button
- REAR channel level button
- CENTER channel level button

11 SPECIFICATIONS

Audio section

Rated maximum output
30 W (8 Ω ohms, 1 kHz with 1.0% THD)
[All properties shown are
only for the power
amplifier stage.]
Frequency response
40 Hz to 20 kHz
Rated input/impedance
150 mV/16 Ω ohms
S/N ratio
90 dB

Speaker impedance

LINE input sensitivity/impedance
150 mV/16 Ω ohms

Video section

Input and output level/impedance
Frequency response

1 Vp-p/75 Ω ohms

2 Hz to 8 MHz ± 0.5 dB

AC 200 V/50 Hz

135 W

220 (W) \times 96 (H) \times 313 (D) mm

12.5 (W) \times 3.8 (H) \times 12.5 (D) in.

4.7 kg (10 lbs 8 oz)

2.0 (W) \times 1.5 (H) \times 1.5 (D) mm

0.8 (W) \times 0.6 (H) \times 0.6 (D) in.

1.5 kg (3 lbs 5 oz)

Two DC 1.6V/887/AA batteries

48 (W) \times 175 (H) \times 18 (D) mm

1.9 (7/8") \times 6.9 (2 3/4") \times 0.7 (1/4")

150g (including batteries) (Approx. 4 oz)

Maximum dimensions include controls, jacks, and covers.

[W] = width, [H] = height, [D] = depth

* Specifications are subject to change without notice.

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12 TROUBLESHOOTING

Check these points before you conclude that the amplifier has developed a fault.

- Are the connections correct?
 - Are you operating the equipment correctly, as described in the operating instructions?
 - Are the speakers, turntable, CD players or other components connected properly?
- If the unit does not work properly, make the checks described in the table below.
- If the fault is not covered in this table, the amplifier has probably developed a fault, and you should switch off the power immediately and contact your dealer or your nearest DENON Service Center or dealership.

Problem	Cause	Measures	Page
Attempt to turn the power on, but the LCD is lit up, but no sound is produced.	Power cord plug is not securely plugged in.	Check that power cord plug is properly plugged in.	1
LCD is lit up, but no sound is produced.	Speaker and its amp assembly is not properly connected.	Connect speaker cord securely.	5
LCD keeps flashing.	Volume adjustment knob is turned all the way down.	Turn volume knob up to a suitable level.	7
Sound only comes out from one side.	Speaker plug has been disconnected.	Turn off power switch, connect speakers correctly, then turn power switch back on.	5
Using stereo playback, the sound is distorted.	Speaker cord is not securely connected.	Connect speaker cords securely.	5
When the problem occurs during CD and during the cassette.	Input and output cords are not properly connected.	Connect input and output cords correctly.	5
	Left and right sides are not properly balanced.	Adjust balance to suitable level using the balance control knob.	7-8
	There are loose connections.	Review connections.	9
Remote control unit does not function properly when operator.	Batteries have run down.	Take out the batteries and replace them with new ones.	—
	Remote control unit is not far away from the amplifier.	Bring the remote control unit nearer to the amplifier.	—
	Something is blocking the way between the remote control unit and the amplifier.	Remove whatever is in the way.	—
	You are pressing the wrong button.	Press the correct button.	—
	The batteries have been inserted with the wrong polarity.	Take the batteries out and reinsert them with the right way round.	—
	Speaker cords are not securely connected.	Turn off power switch, connect speaker cords correctly, then turn power switch back on.	5

13 LAST FUNCTION MEMORY

- This amplifier has a Last Function Memory while storing the input and output state immediately before the power is switched off.
- Because of this function, even when the power has been switched off, the memory is stored for about 3 days, so when the power is switched on again, there is no need to carry out complicated settings again.